claims, and if successful will be applied to reducing the wastes that now take place. Within a year at most, the mill operations should make results certain and the extraction of ore and production of radium will then be continued on a larger scale. The separation of uranium and vanadium will also be studied, a contract having already been signed for all of these by-products that may be produced. All processes, details of apparatus and plant, and general information gained will be published for the benefit of the people.

The institute is supplied with sufficient funds to carry out its plans.

The institute has been formed for the special purpose of procuring enough radium to conduct extensive experiments in radium therapy with special reference to the curing of cancer. It also expects to carry on investigations regarding the physical characteristics and chemical effects of radium rays and hopes in time to be able to assist or perhaps even duplicate the effects of these rays by physical means.

Actual experience, especially of the institute's president, in the application of the 650 milligrams of radium and 100 milligrams of mesothorium already in his possession, have led him and his associates to believe that with larger supplies many of the variables that can not now be controlled may be fully correlated, and that radium may become the most effective agent for the treatment of cancer and certain other malignant diseases. Important results have already been obtained by using high concentration of the gamma rays of radium with the alpha rays entirely cut off and the beta rays largely eliminated. Hospital facilities in both Baltimore and New York are already supplied.

The activities of the institute are sure to be of benefit to the prospector and miner by providing a greater demand for his already rare ore; to the plant operator by developing methods and by creating a larger market for his product, and to the people by assisting, and possibly by succeeding, in controlling the most malignant of diseases. The radium produced is intended for the institute's own use and will consequently remain at home.

The Bureau of Mines is especially fortunate in the opportunity to cooperate in the technological features of the work of the institute.

Charles L. Parsons

Division of Mineral Technology,
Bureau of Mines

THE DECENNIAL OF THE DESERT LABORATORY

The tenth anniversary of the establishment of the Desert Laboratory was celebrated at Tucson, Arizona, September 20.

During the day demonstrations of researches in progress were made to visitors, including members of the International Phytogeographic Society, as follows:

10:30 A.M. Suite of Plants in Series of Environic Reactions. By Dr. D. T. MacDougal.

10:45 A.M. Professor W. L. Tower's Experiments on the Influence of Environic Factors in the Evolution of the Chrysomelid Beetles. By Mr. J. G. Sinclair.

11:00 A.M. Researches on Water Relations of Plants. By Professor B. E. Livingston, assisted by Mr. Pulling and Mr. Shive.

12:00 A.M. Certain Features of Correlation Between Climate and Vegetation in the Tucson Region. By Dr. Forrest Shreve.

12:30 A.M. Experimental Studies in the Root-habits of Desert Species. By Dr. W. A. Cannon.

2:00 P.M. Calorimetric Method of Determination of Leaf-temperatures. By Mrs. Edith B. Shreve.

2:15 P.M. Comparative Light Measurements and the Chemical Effects of Radiant Energy in Plant Processes. By Dr. H. A. Spoehr.

2:45 P.M. Exhibition of Progenies of Young Plants Affected by Ovarial Treatments. By Dr. D. T. MacDougal.

3:00 P.M. Water Balance of Desert Plants. By Dr. D. T. MacDougal.

3:15 P.M. Ascent of Tumamoc Hill: Or Drive to Cactus Garden of the University of Arizona. Exhibition of Publications.

In the evening forty scientific men were the guests of the Carnegie Institution of Washington at dinner. Brief addresses were made by Geh. Professor Engler, director of the Royal Garden of Berlin, Professor R. H. Forbes, director of the U. S. Agricultural Experiment Station of Arizona, Professor B. E. Livingston, director of the Laboratory for Plant Physiology of Johns Hopkins University, Dr. Eduard Ruebel, of Zurich, and Dr. D. T. MacDougal. Congratulatory telegrams from President Woodward, Professor V. M. and Mrs. E. S. Spaulding and others were read. The members of the International Phytogeographic Society also presented testimonials of plate to Professor H. C. Cowles, Dr. Geo. E. Nichols and Dr. Geo. D. Fuller.

The members of the society had been the guests of the Carnegie Institution during the previous week at the Coastal Laboratory at Carmel, California, and at the Salton Sea. During the week following the anniversary date, subsistence, tentage and transportation were furnished to a party of thirty traversing the desert to the base of the Santa Catalina Mountains, and making the ascent to the summit of Mt. Lemmon and the Montane plantation. Ample opportunity was given for observations and discussion of factors affecting distribution, including temperature and evaporation gradients, origin and development of formations and the physical and physiological facts implied in conceptions of chaparral, desert, steppe, forest, etc.

The establishment of the Desert Laboratory was authorized by the trustees of the Carnegie Institution late in 1902. Messrs. F. V. Coville and D. T. MacDougal selected a site at Tucson in February, 1903, and after citizens had contributed two hundred acres of land and other concessions a laboratory was erected and Dr. W. A. Cannon as resident investigator took over the building and began work in September, 1903.

The department of botanical research was created by the trustees in December, 1905, and Dr. D. T. MacDougal was appointed director with headquarters at the Desert Laboratory. The equipment has been extended to include the Coastal Laboratory at Carmel, Calif., experimental plantations at various places and the department sustains relations with a large number of collaborators in various institutions.

THE WILLIAM H. WELCH FUND OF THE JOHNS HOPKINS MEDICAL SCHOOL

THE General Education Board, endowed by Mr. John D. Rockefeller, has appropriated $1,400,000 for the Johns Hopkins Medical School to establish an endowment to be known as the William H. Welch fund, in honor of Dr. Welch, to whom the organization and development of the school are in a large measure due. The objects of the fund are described in a statement given out by the Rev. F. T. Gates, secretary of the General Education Board, as follows:

Since the opening of the Johns Hopkins Medical School in the early nineties, it has been universally conceded that the teaching of the underlying medical sciences, namely, anatomy, physiology, pathology and pharmacology, must be placed in the hands of men devoting their entire time to teaching and research in their subjects.

As the clinical branches are more extensive and more complicated than the above-mentioned underlying sciences, the medical faculty of the Johns Hopkins University has become convinced that it is fully as important that the clinical subjects should be cultivated and taught by men freed from the distraction involved in earning their living through private practise.

The trustees of the Johns Hopkins University and the Johns Hopkins Hospital and the medical faculty of the Johns Hopkins University united in requesting of the General Education Board funds that would enable them to reorganize the departments of medicine, surgery and pediatrics so that the professors and their associates in the clinic and the laboratories should be able to devote their entire time to their work.

In making the gift the General Education Board has placed absolutely no restriction upon the freedom of these men. They will henceforth be in position to do any service that either science or humanity demands. They are free to see and treat any one, whether inside or outside the hos-